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TRANSNATIONAL NETWORKS OF PORK PRODUCTION: FRAGILE LINKAGES BETWEEN GERMANY AND CEE COUNTRIES

Abstract. The intention of this paper is to explore the internationalization efforts of German pork producers towards Central and Eastern Europe (CEE) with a special focus on recent dynamics, market development strategies and policy conditions. The added-value potentials offered by CEE countries have become increasingly lucrative for the German pork industry, particularly as the domestic market currently shows a certain degree of saturation in terms of consumption. The results of this study which is mainly based on qualitative interviews with selected pork producers from North-West Germany reveal that transnational pork production networks between Germany and CEE are shaped by a high degree of fragility and discontinuity. This is reflected not only by the fluctuating development of foreign trade in piglets, live hogs and pork products, but also by the uncertainty and hesitancy of the interviewed pork producers with regard to business operations in CEE markets. It will be shown that the policy conditions on the national level still have a clear impact on internationalization processes in the pork industry. The paper further illustrates that the configuration of transnational pork production networks can be explained, in part, by insights from the global production networks (GPN) and the agri-food geographies literature.
Keywords: global production networks, agri-food geographies, pork industry, internationalization, exports, foreign direct investments, economic policy, Germany, Central and Eastern Europe (CEE)

1. INTRODUCTION

During the last decades, the agri-food industry has undergone a remarkable transformation process which is characterised in particular by the emergence of transnational production networks and commodity flows. In this regard, the political and economic integration of Europe undoubtedly marks an important milestone

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with the eastward enlargement of the European Union in 2004 and 2007 as a preliminary climax. While creating lucrative new markets in the dynamically evolving CEE countries, the integration process has a lasting effect on the spatial organization of agri-food networks within Europe. The agribusiness in Germany notably benefits from the EU accession of countries like Poland, the Czech Republic or Romania due to their increasing demand for specific foods, especially meat products. These added-value opportunities are becoming more important for the German agri-food industry since the domestic market is currently characterised by a certain degree of saturation in terms of food consumption. The result is an increasing orientation towards foreign markets which particularly applies to German pork producers whose export rates in some cases have continued to rise to approximately 50%.

In Germany, the pork industry is strongly concentrated in the North-Western part of the country including the regions of Weser-Ems and East Westphalia-Lippe where dense networks composed of pig farmers, slaughterhouses, pork processors, specialised distributors, and service providers, as well as private and public consultants have emerged over time (Deimel *et al*., 2011). These cluster-like structures are dominated to a certain extent by large meat companies like Tönnies, Westfleisch and the Dutch Vion group accounting for a combined market share of 55% for pig slaughters in Germany (ISN, 2016). The market power of the three firms is also reflected in their leading role in driving forward the internationalization of the German pork industry. Although currently there is a strong focus on the Chinese market, CEE countries remain nonetheless attractive and represent an important target area of pork producing companies. This applies not only to the 'big players' mentioned, but also to small and medium-sized enterprises (SME). Even some pig farmers in cooperation with specialist livestock traders nowadays distribute their hogs or piglets to the adjacent CEE countries which also offer promising added value potentials for the primary production sector.

Against this backdrop, the aim of this paper is to analyse the internationalisation efforts of German pork producers towards CEE countries with a special focus on the individual motives and strategies of firms from North-West Germany. Considering that international business relations in the pork industry are influenced to a certain degree by political and administrative processes (Wognum *et al*., 2009), the impact of the policy environment is also discussed here. The paper thus complements and expands the strand of literature on transnational agri-food networks by addressing the potentials and challenges of more advanced transition countries as target markets for conventional foods (in this case pork products).

The general structure of this paper is divided into six parts. After these introductory remarks, the conceptual framework based on the global production networks (GPN) approach is outlined in the next chapter which also includes relevant insights from the agri-food geographies literature. This part is followed by a brief description of the methodology in Chapter 3. After that, the empirical results on internationalization efforts of German pork producers towards CEE countries are presented in a three-tier structure (Chapter 4). While the first and second parts deal with the export activity (piglets, live hogs and pork products), the third part focuses on foreign direct investments (FDI). Finally, the most important points are reviewed and summed up in the conclusion.

2. THEORETICAL FRAMEWORK

In theoretical terms, this paper draws on the global production networks (GPN) approach which is clearly inspired by the paradigm of relational economic geography and its actor-centred perspective. A particular strength of the GPN approach lies in its explanatory power for the internationalization strategies of individual firms, while simultaneously considering the influence of the broader institutional and socio-cultural environment. In addition, the recent literature on agri-food geographies provides further theoretical insights which are presented in the second part of this chapter.

2.1. Global Production Networks

In order to understand the complex structures and processes of economic activity in the era of globalization, great efforts have recently been made by a number of scholars of various disciplines. From an economic geographical perspective, the global production networks (GPN) approach represents a useful framework for the analysis of economic networks built upon dynamical interconnections between multiple actors originating from different geographical contexts. Based on the initial work of Henderson *et al*. (2002), the GPN approach is intended 'to delimit the globally organised nexus of interconnected functions and operations of firms and extra-firm institutions through which goods and services are produced, distributed, and consumed' (Coe and Yeung, 2015, p. 14). Accordingly, GPNs are defined as 'an organizational arrangement comprising interconnected economic and non-economic actors coordinated by a global lead firm and producing goods or services across multiple geographic locations for worldwide markets' (Yeung and Coe, 2015, p. 32). This perspective takes into account the influence of supra-national organizations, government agencies, trade unions, employer associations, NGOs, consumer groups and other non-economic actors. In analytical terms, the configuration of GPNs depends on the operationalization of three interrelated variables which are value, power, and embeddedness.

The first dimension of value refers to the market orientation of firms whose strategies particularly aim at the realisation of economic rents (Coe and Hess, 2011). Rent is created in a situation where a firm has access to scarce resources which are locally or regionally bounded (e.g. knowledge, technologies, skilled workers, raw materials, finance, infrastructure, brands). In this respect, the primary objective to achieve competitive advantages is the fundamental premise for business strategies and operations resulting in specific multiscalar network configurations. While rents provide a source of sustainable income, they require considerable investment over time. Additionally, unilateral or mutual dependencies between network agents play also a key role for the creation, enhancement, and capturing of value.

A deeper understanding of these dependencies requires a grounded examination of power relations within network configurations. Power can be regarded as 'the ability of one actor to affect the behaviour of another actor in a manner contrary to the second actor's interests' (Coe and Yeung, 2015, p. 17). The GPN approach distinguishes between three forms of power exerted by firms (corporate power), political agents (institutional power) and societal actors like, for example, the media, NGOs or specific action groups (collective power). While the (unequal) distribution of power to a large extent depends on specific resources and capabilities of network agents, GPNs are characterised as contested arenas, 'in which actors struggle over the construction of economic relationships, governance structures, institutional rules, and discursive frames' (Levy, 2008, p. 944).

The third dimension of embeddedness considers the impact of territorial, organizational and socio-cultural environments on the evolution of multiscalar production networks. The idea of embeddedness which originally goes back to Granovetter (1985) is a basic approach for the analysis of economic networks which are strongly influenced by formal political guidelines on the national or regional level, but also by informal and trust-based arrangements between various network agents. In this regard, the importance of the cultural and institutional origins of the economic actor in question is described through societal embeddedness, while network embeddedness refers to the degree of connectivity within a GPN and the stability of its agents' relationships, regardless of their location (Coe and Yeung, 2015). By contrast, territorial embeddedness reveals how firms and related organizations are anchored in and depended on different places and their specific institutional environments. However, changing conditions (e.g. tax increases, trade barriers, environmental restrictions) potentially cause disadvantages and lead to the reconfiguration of production networks. In such a case, Pike *et al*. (2000) speak of a 'process of disembedding'.

Despite its influential role as a heuristic framework in economic geographical research, the GPN approach has also been subject to criticism in that it is not explanatory and causal enough to provide a coherent theory (Hudson, 2008; Starosta, 2010; Sunley, 2008). In response to these critics, Coe and Yeung (2015) recently developed an advanced framework, referred to as 'GPN 2.0', in which three capitalist dynamics – optimizing cost-capability ratios, sustaining market development, and working within financial discipline – are envisioned to drive firm (and non-firm) strategies. Moreover, the authors conceptualise multiple value capture trajectories (classified into three modes and eight types of strategic coupling) in order to understand the ability of firms to capture the gains from enrolment in GPNs as a necessary precondition for territorial development outcomes. Basically, however, 'GPN 2.0' should not be thought of as fundamental break with the former GPN conceptualization and its core categories of value, power and embeddedness which still remain foundational. Rather, 'GPN 2.0' represents a step-change in conceptual development by offering 'greater analytical purchase on the processes of network formation, coordination, and configuration' (Coe and Yeung, 2015, p. 24).

While the GPN approach has proven as a suitable framework to analyse the multiscalar dynamics of economic activity in general, it seems useful to supplement its theoretical content by more specific insights on agriculture and food production which is the focus of this study. The next section therefore draws on relevant arguments derived from the agri-food geographies literature.

2.2. Agri-food geographies

Although food and agriculture have long been of interest across a range of disciplines, geographers have been particularly active in exploring what is commonly regarded as the field of agri-food studies (Goodman, 2016; Niles and Roff, 2008). The changing structures of the agri-food industry within the era of increasing globalization were initially conceptualised by Harriet Friedmann's 'food regime' approach (Friedmann, 1982). Food regimes were generally described as broadly coherent configurations of the industrial, institutional and social aspects of food production, distribution and consumption, coordinated by various modes of regulation – or sets of institutions and norms – within specific historically identifiable regimes of capitalist accumulation (Atkins and Bowler, 2001; Buttel, 2001; Le Heron, 2002; Niles and Roff, 2008). A principal contribution of Friedmann's approach was 'to shift the scale and scope of analysis of much research on "agriculture" to include processes that affected farm activity but that originated beyond the farm gate' (Niles and Roff, 2008, p. 2).

Inspired by the early work on food regimes, several human geographers subsequently began to analyse the rapid transformation of conventional agri-food systems and its underlying processes of intensification, specialization, concentration and globalization. In this regard, the question of how these processes are shaped and reshaped in different places and at different scales has become crucially important, particularly as 'the contemporary food system is […] bound together by cross-cutting affiliations, strong and loose connections, formal and informal relations, relations which empower and disempower as they bind people and places more tightly together' (Murdoch and Miele, 1999, p. 467). Consequently, agri-food scholars are likely to speak of competing or interlocking 'worlds of food' (Friedmann, 2000; Morgan *et al*., 2006) or 'food networks' (Goodman, 2003; Lockie and Kitto, 2000; Whatmore and Thorne, 1997) as a lens for investigating how issues of food safety, quality and convenience intersect in temporally and geographically specific ways with industrial conventions of mass production and global distribution pathways (Goodman 1999, 2001; cited in Niles and Roff, 2008, p. 3).

In the course of increasing world market integration due to deregulation and liberalization, the organization and coordination of international food value chains has become a key focus of the agri-food geographies (Challies and Murray, 2011; Dannenberg and Nduru, 2013; Dolan and Humphrey, 2004; Fold and Gough, 2008; Gibbon *et al*., 2010; Thomsen, 2016). The spatial dynamics and configuration of these value chains depend to a great extent on the requirements of global lead firms (e.g. food retailers, brand manufacturers) which may demand large-volume supply, speed and reliability of delivery, customization of products through processing and packaging as well as guarantees about product safety (Humphrey and Memedovic, 2006). Therefore, global lead firms are in a position to exercise vertical coordination which is usually referred to as 'value chain governance'. The mode of governance, however, is not only related to the power (and powerlessness) of firms, but also to the institutional framework, defined as 'the rules of the game' in national and international contexts. With regard to the strictly regulated food market in Russia, Thomsen points out that 'it is not so much the spatiality of the chains as such that adds to our understanding of intrachain relations, but rather the nature of the territories with all their contextually shaped and influenced functions, including regulation, infrastructure, political economy, labour relations and so on, that are essential' (Thomsen, 2016, p. 835).

The institutional framework is particularly important for the analysis of agri-food networks and value chains in transition economies such as those in Central and Eastern Europe, where the fall of the Iron Curtain in 1989 resulted in a rapid and drastic transformation of the political, social and economic structures. In the course of this transformative environment, the former socialist countries have been converged to market-driven economies which strongly affected the region's agri-food industry (Czaban and Henderson, 2003; Lerman *et al.*, 2004; Micek *et al*., 2011; Müller *et al.*, 2009). This restructuring process marked by liberalization, deregulation and privatization not only triggered new organizational structures of food value chains, but also created growing demand for standardised large-scale production (Dannenberg and Kümmerle, 2010). Due to these changing market conditions in CEE countries, lucrative added value potentials have been arisen, particularly for agribusiness firms from Western Europe and the United States (Micek *et al*., 2011). This also applies to German agri-food producers which currently intensify their business activity in markets like Poland, the Czech Republic or Romania. These transnational linkages are empirically analysed in the following sections by using the example of the expanding German pork industry and its international orientation towards CEE countries. First, though, it is necessary to give a brief description of the methodology used in this study.

3. METHODOLOGY

The empirical analysis is based on a qualitative methodology including 25 guided problem-centered interviews with relevant actors along the pork chain (i.e. 7 livestock traders, 11 slaughterers and/or pork processors) and also some industry experts (i.e. 4 representatives of industry organizations, 2 market analysts, 1 researcher). The use of interview techniques allows deeper insights into the individual background experience of the experts and also provides high flexibility in handling (Mayring, 2016). In general, experts are defined by a high degree of specialist knowledge and/or practical experience (Meuser and Nagel, 2009). Although there is usually a given basic structure depending on specific interview guidelines, the open-minded character of questions enables the interview partners to respond freely and unforcedly (Mayring, 2016). Such an approach makes it possible to capture various interpretative patterns as a basis for social practices of individuals (Schnell *et al.*, 2013).

The interview partners are largely located in North-West Germany, more precisely, in the regions of Weser-Ems and Westphalia-Lippe (see Fig. 1). These are the main pork producing areas throughout Germany characterised by a very strong regional concentration of pig farms, slaughterhouses and pork processing firms. The selection of interview partners is intended to represent a cross section of the pork industry and the heterogeneity of involved actors (e.g. company sizes, organizational forms, degrees of internationalization). In this context, slaughterers and pork processors represent a group of particularly important interviewees. This is due to their central position within the pork production network which implies a wide range of action and business relations on various scales, not least at the international level. The interviews were conducted in 2013 and 2014 either 'face to face' (in most of all cases) or via telephone.

If possible, the interviews were taped and transcribed in order to conduct a content analysis. Initially, this analysis consists of classifying and subsuming the empirical data according to specific categories based on the main research questions (Mayring, 2014). The next step includes a concise summarization of the appropriate interview sections (paraphrasing). These extracted data build the basis for interpretation which additionally requires the consideration of further material. For this reason, the empirical analyses are supplemented by an exploration of statistical facts giving insights, for example, on slaughter volumes, target markets and export rates. Moreover, a series of specialist reports and trade press articles has been analysed in order to get the necessary background information. These data derive from a variety of organizations with the annual publications of the AMI[1] ('market balance sheet: livestock and meat') and the USDA[2] ('GAIN reports: livestock and products') being the most important sources.

Fig. 1. Localisation of the regions Weser-Ems and Westphalia-Lippe

Source: own figure

[1] Agricultural Market Information Company.

[2] United States Department of Agriculture.

4. INTERNATIONALISATION EFFORTS OF GERMAN PORK PRODUCERS TOWARDS CEE COUNTRIES

The spatial organization of the pork industry has considerably changed in the era of globalization. This is clearly illustrated by the fact that pork production and distribution nowadays take place in specific network configurations which are characterised by increasing complexity and market integration. Recently, one of the most striking developments in the pork industry has been the rapidly growing internationalization which is driven to a certain degree by German pork producers. In this context, the eastward enlargement of the European Union in 2004 and 2007 offered a range of new marketing opportunities, particularly as the agri-food industry in most CEE countries had a substantial backlog demand in the development of competitive structures. The following empirical results shed some light on this issue by exploring the potentials, risks and barriers of internationalization towards CEE countries from the perspective of selected pork producers from North-West Germany.

4.1. Piglet and live hog exports from Germany to CEE countries

In recent years, the pork industry in most CEE countries has been characterised by high import needs for piglets and live hogs. The current statistics, for example, indicate that Poland and Romania together received about 7.1 million piglets from other countries in 2015 (USDA 2016a, 2016b). The 'story' behind this exemplary fact is rather complex and relates to a number of influencing factors, both economically and politically. Before elaborating these effects in more detail, it is first useful to look at recent developments in piglet and live hog exports from Germany to selected CEE countries (see Tab. 1 and 2).

Table 1. German exports of breeding and production pigs (including mainly piglets)

Target country	2007	2009	2011	2013	2015	2016
Romania	2.921	70.192	268.890	449.284	801.644	571.143
Poland	12.691	187.280	671.766	1.076.482	474.876	227.319
Hungary	9.492	228.064	318.655	333.240	316.561	248.016
Czech Republic	77.397	58.123	161.637	174.082	175.713	114.062
Croatia	141.649	291.214	208.730	87.629	155.216	123.297
Bulgaria	1.486	3.952	5.470	16.081	22.383	15.644
Slovakia	6.397	13.308	16.468	39.564	18.636	–

Source: AMI, various years.

Table 2. German exports of slaughter pigs

Target country	2007	2009	2011	2013	2015	2016
Poland	26.091	350.053	505.613	918.385	344.245	106.368
Croatia	-	-	-	46.922	62.226	60.127
Czech Republic	3.823	165.623	90.179	85.087	29.488	17.841
Slovakia	557	30.209	12.192	28.466	11.134	---
Hungary	3.433	80.038	53.063	93.766	5.011	150
Romania	-	5.225	8.887	-	200	-
Bulgaria	-	-	-	-	-	-

Source: AMI, various years.

The figures show an uneven and volatile development of German exports of live pigs to seven target countries in CEE. On closer inspection, however, it is noticeable that the exports of breeding and production pigs have performed differently from those of slaughter pigs in the period between 2007 and 2016. In this regard, the data in Tab. 1 refer primarily to the export of piglets which account for by far the largest proportion of the category of breeding and production pigs. Accordingly, the exports of piglets to most CEE countries began to increase rapidly after 2007 with Hungary, Poland and Romania clearly showing the highest growth rates in the initial phase from 2007 to 2009. One of the reasons for this remarkable development is that the feed costs have risen sharply since summer 2007. In such circumstances, the piglet producers in most CEE countries were facing serious economic problems, particularly as their equity base and level of efficiency had been generally low for years. As a consequence, many farmers gave up their businesses and the piglet production virtually collapsed within a short period of time, while simultaneously creating promising value opportunities for foreign piglet producers and livestock traders.

Beside Denmark and the Netherlands, Germany has become one of the most important source countries for piglet exports to CEE since then. This is underpinned by the export figures showing a further increase of German piglet exports to countries like Poland, Romania, Hungary and the Czech Republic until 2013. In 2015, however, exports developed differently from country to country. While Poland has reduced the import of piglets from Germany to less than a half compared with 2013, the exports to Romania, by contrast, have almost doubled in the same period. The figures for the other CEE countries, in turn, have remained mostly constant. In 2016, the picture changed again and German piglet exports declined notably on a broad front. These recent developments are primarily due to different and changing political-economic conditions on the national level. In Romania, for example, political actors have been providing strong financial incentives for domestic pig fatteners for several years, leading to a significant mismatch between piglet production and pig fattening. According to the USDA (2016b), the latest decline of piglet imports accounts for the strengthening of the Romanian pork industry which is further driven by rising demand from China. In this respect, the veterinary agreement signed between Romanian and Chinese veterinary authorities in 2016 has proven fruitful so far. In Poland, it is primarily the inefficient structure of the pig farming sector that has led to an exacerbating decline of pig stocks with the result that competition for piglet supply has been intensified (USDA, 2016a). This particularly benefits the Danish piglet suppliers which are able to provide large batches at competitive prices. Accordingly, the Danish piglet exports to Poland increased by 18 per cent in 2015, and the tendency continues to rise (Danish Agriculture and Food Council, 2017; LEL and LFL, 2016).

Compared with this, the exportation of slaughter pigs from Germany to CEE countries has developed rather differently (see Tab. 2). After a phase of exponential growth between 2007 and 2009, export volumes significantly dropped until 2011 – with the exception of Poland. The Polish demand for slaughter pigs has been continuously increased, reaching a peak in 2013 with more than 900.000 imported live hogs from Germany. The figures for the other notable export markets – Czech Republic, Hungary and Slovakia – indicate an oscillating demand for slaughter pigs in the same period between 2009 and 2013. Currently, Croatia has emerged as a further important target country for German exporters, even ranking second behind Poland in 2015. However, it is striking that the exports drastically declined in 2015 (except for Croatia). This abrupt downturn is a result of various factors such as, for example, the recovery of pig stocks due to political support measures (e.g. in Hungary) or the outbreak of African swine fever observed since 2014 (e.g. in Poland). In 2016, the figures show a further decline in slaughter pig exports from Germany to CEE countries.

The empirical study reveals an ambivalent picture regarding the potential of CEE markets. Even though the opportunity to generate added value is generally undisputed, the majority of interview partners feels uncertain about the risks possibly resulting from trade relations with CEE countries. A cooperative livestock trader from the Weser-Ems region describes his viewpoint as follows:

> Poland has strongly reduced its pig stocks, there is undoubtedly demand […]. But we have soon realised that this is not our way: the long transport routes, the unknown, what happens with the animal. There were too many questions. Consequently, we remain focused on long-term partnerships with regional slaughterhouses to maintain our strong position over here.

This statement underlines the regionally embedded business relations which are quite typical for pork producers in North-West Germany. Another livestock trader, however, highlights the lucrative conditions in CEE markets:

> I clearly foresee the export as the best way forward for our company due to the better margins. And it is also easier to acquire market shares in countries like Poland or the Czech Republic.

Therefore, and in view of the highly competitive domestic market, the CEE countries are in a certain sense regarded as fulfilling a ‘valve-like’ function for the German pig suppliers. On the other hand, the volatility and unpredictability of these markets which is to some extent a result of political (not to say protectionist) measures makes the establishment of transnational business relations a thorough appraisal process.

4.2. Pork exports from Germany to CEE countries

The exportation of final and intermediate pork products from Germany to CEE countries has also undergone a dynamical development in recent years, though not showing such extreme fluctuations in comparison to live pig exports. The figures in Tab. 3 firstly reveal a very strong export growth from 2007 to 2009 which generally applies to all the target countries mentioned. However, while Poland and Bulgaria, for example, have almost tripled respectively quadrupled their pork imports from Germany, the increase in Hungary was only 17% during the same period. These growth rates were mainly a result of the structural upheavals which affected the pork industry in most CEE countries after 2007. The consequence was a sharp decline of pork production due to the lacking competitiveness of the majority of pork producers in CEE. However, while the demand for pork products within these countries was still increasing, the market area of CEE has become more and more the focus of foreign pork producers, particularly from Germany. Since 2009, German pork producers could stabilise their export volumes to CEE countries on a high level with Romania emerging as the most dynamical market in the very recent past. Due to the strong reduction of pork production capacities, the self-sufficiency rate in almost every CEE country is far less than 100% (in some cases even less than 50%), thus explaining the strong import needs for pork products (AHDB, 2016).

Table 3. German exports of pork products (in tons)

Target country	2007	2009	2011	2013	2015	2016
Poland	72.522	212.301	226.757	201.372	191.222	200.197
Czech Republic	61.102	86.977	115.352	136.551	127.587	116.448
Romania	51.666	78.072	57.519	59.519	83.239	76.095
Hungary	59.709	69.809	71.312	60.212	54.659	49.265
Slovakia	12.516	26.299	28.751	22.877	29.075	33.816
Croatia	10.875	14.270	18.938	18.516	18.283	28.224
Bulgaria	6.631	25.116	25.589	28.717	26.977	22.965

Source: AMI, various years.

The interviewed pork producers recognise the added value potential of CEE since most of them have been operating in these markets for several years. Thereby, the main focus clearly lies on Poland which is in line with the export figures mentioned above. A representative of a slaughter company describes the importance of the Polish market as follows:

> Poland is a special country with enormous potential. Currently, there is import need because the number of livestock has clearly decreased in recent years. There are greater marketing opportunities, particularly since Poland joined the EU. And we are also present on-site with a number of sales offices.

This statement reveals two aspects which are critical for the configuration of transnational pork production networks between Germany and CEE countries. First, the eastward enlargement of the EU in a sense functions as a ‘door opener’ for more intensive market development by German pork producers in the late 2000s. This is due both to the creation of a more favourable political and economic climate and the perceived risk reduction caused thereby. Second, the establishment of sales offices represents a realignment of market development strategies in that German pork producers increasingly aim at a deeper penetration into CEE markets. These sales dependences are usually staffed with experienced specialists knowing the characteristics of the according markets. The cultural proximity between sales representatives and (potential) customers – including the ability to speak the respective language – is regarded as a critical success factor. However, the establishment of sales offices is rather a ‘privilege’ of the larger firms as higher trade volumes und more sophisticated customer networks necessitate a local presence in order to coordinate the commodity flows and to penetrate deeper into the market. Moreover, larger firms mostly have greater financial and personal resources for running sales dependences in CEE countries.

One further aspect not to be underestimated for the development of CEE markets is related to the uncertain situation in Russia. For a long time, Russia was one of the most important export markets receiving more than 240.000 tons of German pork still in 2012. At the beginning of 2013, however, Russian agencies imposed a ban on imports for chilled pork from Germany due to disregards of hygiene requirements and inadequacies within the federally organised German veterinary system. This argumentation meets with incomprehension among representatives of the German pork industry underpinned by a slaughterer who refers to ‘an arbitrary political decision which has nothing to do with product qualities.’ Later on, the Russian government has extended this restriction to most Western countries, while at the same time boostering the domestic pork sector by huge investments in production expansion and operational efficiency (USDA, 2017). Hence, the Russian economic policy ‘points to unequal treatment of the European producers, which consists in imposing an embargo on some of them (e.g. Poland and Lithuania), favouring others at the same time’ (Pawlonka, 2017, p. 186, according to

Bartosińska *et al.*, 2014). In order to become relatively independent of such-like distortions as in Russia, it is important for export-oriented firms to find alternative markets. In this regard, a representative of a slaughter company confirmed, for example, that the pork exports to Romania and the Czech Republic strongly increased by 40% respectively 28% in 2014, shortly after the Russian import ban.

Despite the current added value potential of these countries, there are also some experts representing quite sceptical viewpoints about the future prospects in CEE markets. This is exemplified by the following statement of a market analyst:

> As far as I have heard, a number of CEE countries are currently concerned with funding measures for investments in pig farming. And I believe, in fact, that these top-down initiatives will provide the basis for more efficient and more competitive farm structures. One would expect, therefore, that the pork industry in most CEE countries will consolidate in the near future leading, among others, to a reconfiguration of import-export relations.

The food and agricultural policy on the national level thus again proves to be an important factor for the (re)structuring of transnational production networks and commodity flows in the globalizing pork industry. Another critical point for the fragility of transnational network relations refers to the nature of demand in most CEE countries which is still rather focused on 'low-value' pork (with a higher fat content). Therefore, some of the interview partners have been very cautious when assessing the long-term opportunities for value enhancement in CEE markets, particularly in view of the increasing demand from third party countries (e.g. China, South Korea, Japan).

4.3. Direct investments of German pork producers in CEE countries

In view of the transition to market-based economies, the former post-socialist CEE countries basically offer promising opportunities for foreign direct investments which also applies to the pork industry. For example, the US Smithfield group, which was taken over by the Chinese Shuanghui International Holding in 2013, has made several investments in CEE during the 1990s and 2000s (Micek *et al.*, 2011). These internationalization strategies were mainly based on acquisitions of existing pork producers which already had a strong or expandable position in the respective markets. In addition to Smithfield, some other foreign companies, particularly from Denmark (e.g. Danish Crown, Tican, Poldanor), have invested in CEE markets in order to develop own production capacities on-site.

However, the internationalization efforts of German pork producers rarely include direct investments in production facilities in CEE. One of the few exceptions relates to the Westfleisch group, headquartered in Münster, which has established a cutting and processing plant in Tarnaveni, Romania. This plant was further extended in 2012 and has now reached a capacity to cope with around 4.000 slaughtered pigs per week (*Annual Report*, 2013). Another example relates to the Tönnies group, located in Rheda-Wiedenbrück, which is the German market leader in pork production. In the course of the major acquisition of the Danish Tican group in March 2016, Tönnies has taken over the medium sized Polish pork processing firm Zakłady Mięsne "Nove". This former subsidiary of Tican is located close to Nowe town in the Kuyavian-Pomeranian Voivodeship. The company employs 460 people and has the capacity to produce about 350 to 450 tons of final pork products per week (*About the company*, 2016). Despite these examples, nearly all interviewed pork producers have been very reserved when discussing about foreign direct investments in CEE countries. One interview partner, for example, argues as follows:

> We have thought about the establishment of production facilities. But there are also opportunities to serve these markets from East Germany. Another point is that the implementation of slaughtering activities or cutting activities, of course, requires the access to 'living raw materials'. And as you probably know, the pig numbers in CEE countries, particularly in Poland, have been strongly decreasing in recent years with the result that slaughter pigs must be imported from Germany or even from the Netherlands. That's why investments in production facilities in CEE are not an issue for us.

For this reason, the interviewed pork producers remain focused on simple export relations or the establishment of sales offices.

In general, it becomes clear that the approaches and strategies of foreign market development vary to a large extent and there seems to be no single 'blue print'. However, foreign direct investments aiming at pork production facilities are rather unlikely for several reasons. Beside the high investment costs, it would be difficult to build up the technical infrastructure including the agricultural base for live hog supply as well as the required know-how for running production facilities. Moreover, most CEE countries are characterised by higher levels of vertical consolidation (Pawlonka, 2017), which may also impede the willingness to make direct investments. If at all, only the Tönnies group is apparently able to establish own production capacities on a larger scale, as indicated by current plans for direct investments in Russia and Serbia. Therefore, a strong market position in combination with a huge amount of resources (capital, personnel) or, in other words, the appropriation of corporate power seem to be critical for more ambitious internationalization efforts.

5. CONCLUSION

At the European level, the emergence of transnational food value chains, though not a new phenomenon, has experienced a remarkable push after the eastward enlargement of the EU in the 2000s. This is particularly reflected in the growing exports of agri-food commodities from Western Europe to CEE countries. The pork industry represents a concise example in that respect, as shown by the internationalization activities of selected German pork producers towards CEE. However, the described transnational linkages between Germany and CEE are characterised by a high degree of fragility, discontinuity and risk awareness. This is indicated not only by the fluctuating and volatile development of foreign trade in piglets, live hogs and pork products, but also by the reluctance of the interviewed pork producers to make direct investments in CEE markets.

The configuration of transnational pork production networks between Germany and CEE countries can be explained, in part, by insights from the global production networks (GPN) and the agri-food geographies literature. The first insight is that the political and institutional framework on the national level still plays a key role for pace and direction of internationalization processes in the pork industry. In this regard, the political-economic transition, the EU accession, the Russian import ban and the adoption of agricultural support measures are only a few examples for the impact of political decisions and interventions on pork production networks. According to the GPN approach, these influences can be subsumed under the term 'institutional power'. The second insight refers to the ambiguous category of value as the main driver of foreign market development in the globalizing pork industry. As a result of the changing market conditions, the CEE countries offer a great deal of opportunities for value enhancement which are captured by most of the interviewed pork producers from North-West Germany. However, due to the volatility and unpredictability of CEE markets, the establishment of transnational business relations depends on a serious cost-benefit calculation. This appraisal process also takes into account the possible consequences for the own position in traditional domestic markets, which is why some interview partners have so far refused to operate in CEE. This leads us to the third insight, that is, the strong competition in the globalizing pork industry taking place on multiple scales. Therefore, pork producers are increasingly compelled to deal with rapidly changing and complex markets ranging from the regional to the global level. Mastering this challenge requires a high degree of corporate flexibility and the capability of embedding in and disembedding from different networks and territorial contexts. The differentiation of markets is particularly indicated by the growing demand from East Asian countries which are increasingly on the agenda of the interviewed pork producers.

Nevertheless, it can be assumed that CEE countries will remain an important pillar for the ongoing internationalization of German pork producers, even though there are a number of imponderables making transnational linkages more fragile and inconsistent. The fragility of these linkages may thus be a typical feature of the contemporary food system which is held together by a heterogeneous conglomerate of strong and loose network relations crossing national boundaries. In such circumstances, it is difficult to make long-term forecasts on the globalizing pork industry, especially since a lot depends on (national) policy measures shaping the multiscalar organization of pork production networks.

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